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EXAMINER

TAKAOKA, DEAN O

ART UNIT PAPER NUMBER

2817

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY

Office Action Summary

Application No.

09/881,235

Applicant(s)

ENOKIHARA ET AL.

Examiner

Dean O Takaoka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 May 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 – 11, and 13 – 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa et al. (4,639,699) for reasons of rejection contained in the previous office action (paper no. 4 dated July 16, 2002).

Claim 1:

Claim 1 has been twice amended to include "and defining an interior space" and "substantially filling the entire interior space".

It is the position of the Examiner that the amendment of claim 1 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. shows a columnar shielding case composed of conductive material, such as shown in Fig. 15, with conductive film 42 defining an interior space. Fig. 14C shows another embodiment where the conductive film 32 also forms the interior space. The further limitation where "a dielectric substantially filling the entire interior space", is also shown by any of the figures of Nishikawa et al. where air is a dielectric, thus in combination with dielectric materials 41 (Fig. 16) and 4 (Fig. 15), "a dielectric" entirely fills the interior space.

Claims 3 – 5:

Claims 3 – 5 have not been amended, thus the rejection by the prior art of Nishikawa et al. is maintained.

Claim 6:

Claim 6 has been twice amended to include "a planar" and "sheet".

It is the position of the Examiner that the amendment of claim 6 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. shows a resonator (Fig. 32) using a TM mode, the resonator comprising: a case composed of a case body and a lid (case 81 and lid 82), a dielectric (66) fixed therein (the dielectric shown as fixed in the case); an elastic layer sandwiched between the lid and the case body; and a planar conductive foil (70) sheet (where the conductive foil is planar, e.g. a plane illustrated in Figs. 12 – 14C, as depicted in the cross section of Fig. 32, further where the foil 70 may also be described as a sheet, e.g. thin layer) sandwiched between the elastic layer and the case body, wherein lower and upper ends of the dielectric (66) are respectively fixed to an inner face bottom of the case body (shown as 63 in Fig. 31 equivalent to 140 in Fig. 32) and the conductive foil (70) in contact therewith, thus the newly added limitations still anticipated by Nishikawa et al.

While it may be argued that the conductive foil 70, as shown in Fig. 32 and between elastic layer 151, comprises two sections or layers surrounding dielectric lid section 62, it is the position of the Examiner that any section of conductive foil 70, e.g. top or bottom, is planar and comprises a sheet, thus anticipating the newly added limitation of claim 6.

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Claim 7:

Claim 7 has been amended to include "sheet", "case body", "lid", "body", and "sheet".

It is the position of the Examiner that the amendment of claim 7 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. (Figs. 31 and 32) shows the conductive foil sheet (70) interposed between the first case body (which may be defined as dielectric case side 64 and bottom element 63, element 63 shown in Fig. 31) and the lid (82), and the dielectric (66) is electromagnetically shielded by the body and the conductive foil sheet (where the enclosure of case side element 64 and conductive foil 70 inherently provides electromagnetic shielding).

Claim 8:

Claim 8 has been amended to include "sheet", "case body", "lid", "body", and "sheet".

It is the position of the Examiner that the amendment of claim 8 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. (Figs. 31 and 32) shows the conductive foil sheet (70) interposed between the first case body (which may be defined as dielectric case side element 64) and the lid (82), and the dielectric (66) is sandwiched by the body (63, 64) and the lid (where the enclosure of case side and bottom elements 63, 64 and lid 82 sandwiches the dielectric 66, e.g. top and side).

Claim 9:

Claim 9 has been amended to include "sheet" and "lid".

It is the position of the Examiner that the amendment of claim 9 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. (Fig. 32) shows an elastic layer (151) interposed between the conductive foil sheet (70) and the lid (82).

Claim 10:

Claim 10 has not been amended, thus the rejection by the prior art of Nishikawa et al. is maintained.

Claim 11:

Claim 11 has been amended to include "an elastic layer sandwiched between the lid and the case body; a planar conductive foil sheet sandwiched between the elastic layer and the case body; the dielectric having lower and upper ends that are respectively disposed in contact with an inner face of the case and the conductive foil sheet".

It is the position of the Examiner that the amendment of claim 11 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. shows all limitations in Fig. 32 (contained in the reasons for rejection of claims 6 – 10 above), sans the conductor rod being variable. Nishikawa et al. however provides an alternative embodiment in Fig. 33 where the fixed probes (87) of Fig. 32 are replaced by adjustable tuning 165 in Fig. 33, where the insertion depth tunes the resonant frequency (col. 19, lines 4-6).

Claim 13:

Claim 13 has been amended to include "having top and bottom surfaces and at least one side surface" and "top, bottom, and side surface".

It is the position of the Examiner that the amendment of claim 13 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. shows a dielectric "having top and bottom surfaces and at least one side surface" (where Figs. 12 – 16 show the dielectric 4 or combination of 4 and 41 Fig. 16; where cylindrical dielectric 4 may be a square pillar shape – col. 10, lines 53-66, thus comprising one side surface; where the "top, bottom, and side surface" of the dielectric is in direct contact with the shielding conductor (e.g. conductive film) 42 – Fig 15).

Claim 14:

Claim 14 has been twice amended to include "planar" and "sheet".

It is the position of the Examiner that the amendment of claim 14 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. (Figs. 31 and 32) shows a resonator using a TM mode, the resonator comprising: a case composed of a case body and a lid (case 81 and lid 82), a dielectric (66) fixed therein (the dielectric shown as fixed in the case); a case for housing the dielectric; an elastic layer sandwiched between the lid and the case body; and a "planar" conductive foil "sheet" (70) sandwiched between the elastic layer (151) and the case body (63, 64), wherein lower and upper ends of the dielectric (66) are respectively fixed to an inner face bottom of the case body (63 – Fig. 31) and the conductive foil (70) in contact therewith, and part of the case is constructed of

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conductive foil and the conductive foil partly shields the dielectric electromagnetically (where Nishikawa et al. teaches all limitations discussed in the reasons for rejections of claims 6 – 10 above, thus the newly added subject matter to the claim is still anticipated by Nishikawa et al.).

Claim 15:

Claim 15 has been amended to include "an elastic layer sandwiched between the lid and the case body; a planar conductive foil sheet sandwiched between the elastic layer and the case body; the dielectric having lower and upper ends that are respectively disposed in contact with an inner face of the case and the conductive foil sheet;".

It is the position of the Examiner that the amendment of claim 14 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Nishikawa et al. (Figs. 31 and 32) shows the resonator comprising: a dielectric having a hole (Figs. 16 and 30; where outer dielectric 41 or 147 respectively has holes); a case (case 81 and lid 82) surrounding the dielectric (66); "an elastic layer sandwiched between the lid and the case body; a planar conductive foil sheet (70) sandwiched between the elastic layer (151) and the case body (63, 64); the dielectric having lower and upper ends that are respectively disposed in contact with an inner face of the case and the conductive foil sheet;" and a conductor rod inserted into the hole of the dielectric, the insertion depth of the conductor rod being variable, where a resonant frequency is adjusted with the insertion depth of the conductor rod into the hole (where Nishikawa et al. teaches all limitations discussed in the reasons for rejections of claims

11 above, thus the newly added subject matter to the claim is still anticipated by Nishikawa et al.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. and El-Sharawy (U.S. Patent No. 6,169,467) for reasons of rejection contained in the previous office action (paper no. 4 dated July 16, 2002).

Claim 2:

Claim 2 has not been amended, thus the rejection by the prior art of Nishikawa et al. and El-Sharawy is maintained.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. and Liang et al. (U.S. Patent No. 5,805,033) for reasons of rejection contained in the previous office action (paper no. 4 dated July 16, 2002).

Claim 16:

Claim 16 has been amended to include "a planar" and "sheet"

It is the position of the Examiner that the amendment of claim 16 adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al. The additional limitations of claim 16 are essentially identical to the added limitations of

claim 6 above with the exception of minor word changes or deletions which do not affect the scope of the newly added limitations. Since the newly added limitations of claim 6 are shown to be anticipated by Nishikawa et al. above, the newly added limitations of claim 16 are also anticipated by Nishikawa et al. and Liang et al. contained in the previous office action (paper no. 4 dated July 16, 2002).

Response to Arguments

It is noted that corrections to the drawings have been accepted and all previous drawing objections and rejections of claims under 35 U.S.C. 112 2nd paragraph, have been withdrawn.

Applicant's arguments filed April 23, 2003 (paper no. 11) have been fully considered but they are not persuasive.

Claim 1:

It is presented that the prior art of Nishikawa et al. does not employ the structure as shown by the current invention, e.g. Fig. 1. It is the position of the Examiner that while the resonator structures are not identical, the prior art of Nishikawa et al. nonetheless anticipates the newly added limitations (it is well known that air is a dielectric), thus claim 1 is not patentably distinct from the prior art.

Claim 6:

With respect to the previous rejections under 35 U.S.C. 112 2nd paragraph, the Examiner appreciates the Applicant's amendment to clarify the "first portion" and "second portion", thus all previous rejections under 35 U.S.C. 112 2nd paragraph have been withdrawn by the Examiner.

It is presented that the prior art of Nishikawa et al. is more complex than that shown by the current invention. It is the position of the Examiner that while the resonator structures are not identical, the prior art of Nishikawa et al. nonetheless anticipates the newly added limitations.

As noted in the reasons for rejection of claim 6 above; *"while it may be argued that the conductive foil 70, as shown in Fig. 32 and between elastic layer 151, comprises two sections or layers surrounding dielectric lid section 62, it is the position of the Examiner that any section of conductive foil 70, e.g. top or bottom, is planar and comprises a sheet, thus anticipating the newly added limitation of claim 6."*

Claim 11:

For reasons previously discussed with respect to claims 1 and 6, it is the position of the Examiner that the functionality and/or structure of the current application is not commensurate to what is being claimed and that the structure of the current invention is anticipated by Nishikawa et al., thus the amendment adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Claim 12:

Rejection of claim 12 has been withdrawn and is found allowable over the prior art.

Claim 13:

Claim 13 introduces a top, bottom and side surface in direct contact with shielding conductor. It is the position of the Examiner that the newly added limitations are anticipated by Nishikawa et al. As noted in the reasons for rejection of claim 13

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above, *"Figs. 12 – 16 show the dielectric 4 or combination of 4 and 41 Fig. 16; where cylindrical dielectric 4 may be a square pillar shape – col. 10, lines 53-66, thus comprising one side surface; where the "top, bottom, and side surface" of the dielectric is in direct contact with the shielding conductor (e.g. conductive film) 42 – Fig 15"*, thus the amendment adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Claim 14:

The *"planar conductive foil sandwiched between the elastic layer and the case body"* is discussed above in the reasons for rejection of claim 6; where the *"dielectric having lower and upper ends that are respectively disposed in contact with an inner face of the case and the conductive foil sheet"* is also discussed in the reasons for rejection of claim 6, thus the amendment adds no patentable subject matter to the claim and is still anticipated by Nishikawa et al.

Claim 16:

It is the position of the Examiner that the structure of the current invention is anticipated by Nishikawa et al. and Liang et al. where Nishikawa et al. teaches *"the planar conductive foil sheet sandwiched between the elastic layer and the case body"* (discussed in the reasons for rejection of claim 6 above), where Liang et al. teaches an interstage coupling degree adjusting member for adjusting the area of the inter-stage coupling window, thus the amendment adds no patentable subject matter to the claim and is still obvious by Nishikawa et al. and Liang et al.

Allowable Subject Matter

Claim 12 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of Nishiyama et al. does not show the elastic layer sandwiched between the lid and case body. The elastic layer (23, 24) is between the dielectric element (2) and case body (13, 14).

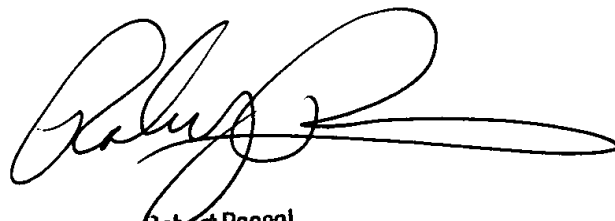
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O Takaoka whose telephone number is (703) 305-6242. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dot
June 23, 2003



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800